

CLAIMS:

1-27. (Cancelled)

28. (Currently Amended) A method for transmitting signals having a wireless signal format using an RF port, the RF port having a wired network interface whereby the RF port is coupled to a wired network, and further having a data processor and an RF module, wherein the RF port is configured to perform low level medium access control (MAC) functions and wherein the wired network comprises at least one of a physical entity and a logical entity to perform high level MAC functions, the method comprising:

providing signals formatted according to high level of MAC functions over the wired network to said wired network interface, said signals having wireless address data and message data within a data packet addressed to said RF port; ~~using a protocol of said wired network,~~

operating said processor to provide wireless data signals having said wireless signal format for said address data and said message data to said RF module; ~~module,~~

operating said RF module to transmit said wireless data signals as an RF signal modulated with said wireless signal format to a mobile ~~unit,~~ unit; and

operating said RF module to receive an acknowledgement signal from said mobile unit and operating said data processor to process said acknowledgement signal and to cause said RF module to retransmit said wireless data signals if said acknowledgement signal is not received.

29. (Currently Amended) A method for transmitting signals having a wireless signal format using an RF port, the RF port having an Ethernet interface

whereby the RF port is coupled to a wired network, the RF Port further having a data processor and an RF module, wherein the RF port is configured to perform low level MAC functions and wherein the wired network is configured to high level of MAC functions, the method comprising: comprising

providing an Ethernet data packet formatted according high level of MAC functions to said Ethernet interface, said Ethernet data packet encapsulating as data a data message having said wireless signal format; ~~of said wired network,~~

operating said data processor to provide said data message to said RF module; ~~module,~~
operating said RF module to transmit said data message as an RF signal to a mobile unit; and unit,

operating said RF module to receive an acknowledgement signal from said mobile unit and operating said data processor to process said acknowledgement signal and to cause said RF module to retransmit said wireless data signals if said acknowledgement signal is not received.

30. (Original) A method as specified in Claim 29 further comprising operating said data processor to perform a cyclic redundancy computation on said data message and adding the result thereof to said data message.

31. (Original) A method as specified in Claim 29 further comprising operating said data processor to control said radio module.

32. (Currently Amended) A method for receiving signals having a wireless signal format including wireless address data and message data at an RF port,

the RF port having a wired network interface whereby the RF port is coupled to a wired network, and the RF port further having a data processor and an RF module, wherein the RF port is configured to perform only low level MAC functions, the method comprising:
comprising

operating said RF module to receive RF signals having said wireless signal format from a mobile ~~unit~~ unit;

operating said data processor to receive wireless data signals from said RF module and provide data signals to said wired network interface comprising a data packet having a source address corresponding to said RF port formatted according to higher level MAC functions on using a protocol for said wired network, said data packet including said wireless address data and said message data; and

operating said data processor to cause said RF module to send an acknowledgement signal to said mobile unit.

33. (Currently Amended) A method for receiving RF message signals having a wireless signal format including address data and message data using an RF port the RF port having an Ethernet interface whereby the RF port is coupled to a wired network, and the RF port further having a data processor and an RF module, wherein the RF port is configured to perform only low level MAC functions, the method comprising:
comprising

receiving said RF message signals from a mobile unit in said RF ~~module~~ module; and

providing said RF message signals as data signals to said data ~~processor~~,
processor;

operating said data processor to interpret address data in said data signals
and, signals;

in dependence on said address data, encapsulating said RF message data
and address data in an Ethernet packet and providing said Ethernet packet to said
Ethernet interface formatted according to higher level MAC functions on said wired
network, and

operating said data processor to cause said RF module to send an
acknowledgement signal to said mobile unit.

34. (Original) A method as specified in Claim 33 wherein said data processor is
operated to encapsulated said address data in said Ethernet packet.

35. (Original) A method as specified in Claim 33 wherein said data processor is
further operated to perform a cyclic redundancy computation on said message data and to
compare the result thereof with corresponding data received in said data signals.

36. (Original) A method as specified in Claim 33, further comprising operating
said data processor to control said radio module.

37-58. (Cancelled)

59. (Previously Presented) A system for providing wireless data communications
between mobile units and a wired network operating according to a wireless data
communications protocol having higher level media access control functions, including
association and roaming functions, and lower level media access control functions,
including packet acknowledgement functions, comprising:

a plurality of RF ports, having at least one data interface, a radio and a
control unit, said RF ports being arranged to receive formatted data signals at said data
interface and transmit corresponding RF data signals according to said wireless data

communications protocol, and arranged to receive RF data signals having said wireless data communications protocol and provide corresponding formatted data signals at said data interface, said RF ports being further arranged to perform at least some of said lower level media access control functions, including said packet acknowledgement functions; and

at least one cell controller, arranged to receive data signals from said wired network, to format said data signals and to provide formatted data signals to said data interface of RF ports connected to said cell controller, and to receive formatted data signals from said connected RF ports and to provide data signals to said wired network, said cell controller being further arranged to perform at least some of said higher level media access control functions for all of said connected RF ports, including association of mobile units with one of said RF ports.

60. (Currently Amended) The method of claim 28 wherein the wireless signal format and the MAC functions are defined according to the IEEE 802.11 standard.

~~A method for transmitting signals having IEEE Standard 802.11 signal format using an RF port having a wired network interface, a data processor and an RF module, comprising providing signals to said wired network interface having wireless address data and message data within a data packet addressed to said RF port using a protocol for said wired network, operating said processor to provide wireless data signals having IEEE Standard 802.11 signal format for said address data and said message data to said RF module, operating said RF module to transmit said wireless data signals as an RF signal modulated with said signal format to a mobile unit, operating said RF module to receive an acknowledgement signal from said mobile unit and operating said data~~

~~processor to process said acknowledgement signal and to cause said RF module to retransmit said wireless data signals if said acknowledgement signal is not received.~~

61. (Currently Amended) The method of claim 29 wherein the wireless signal format and the MAC functions are defined according to the IEEE 802.11 standard.

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~~A method for transmitting signals having a IEEE Standard 802.11 signal format using an RF port having an Ethernet interface, a data processor and an RF module, comprising providing an Ethernet data packet to said Ethernet interface, said Ethernet data packet encapsulating as data a data message having IEEE Standard 802.11 signal format, operating said data processor to provide said data message to said RF module, operating said RF module to transmit said data message as an RF signal to a mobile unit, operating said RF module to receive an acknowledgement signal from said mobile unit and operating said data processor to process said acknowledgement signal and to cause said RF module to retransmit said wireless data signals if said acknowledgement signal is not received.~~

62. (Previously Presented) A method as specified in Claim 61 further comprising operating said data processor to perform a cyclic redundancy computation on said data message and adding the result thereof to said data message.

63. (Previously Presented) A method as specified in Claim 61 further comprising operating said data processor to control said radio module.

64. (Currently Amended) The method of claim 32 wherein the wireless signal format and the MAC functions are defined according to the IEEE 802.11 standard.

~~A method for receiving signals having IEEE Standard 802.11 signal format including wireless address data and message data at an RF port having a wired network~~

~~interface, a data processor and an RF module, comprising operating said RF module to receive RF signals having said signal format from a mobile unit, operating said data processor to receive wireless data signals from said RF module and provide data signals to said wired network interface comprising a data packet having a source address corresponding to said RF port using a protocol for said wired network, said data packet including said wireless address data and said message data and operating said data processor to cause said RF module to send an acknowledgement signal to said mobile unit.~~

65. (Currently Amended) The method of claim 33 wherein the wireless signal format and the MAC functions are defined according to the IEEE 802.11 standard.

~~A method for receiving RF message signals having IEEE Standard 802.11 signal format including address data and message data using an RF port having an Ethernet interface, a data processor and an RF module, comprising receiving said RF message signals from a mobile unit in said RF module and providing said signals as data signals to said data processor, operating said data processor to interpret address data in said data signals and, in dependence on said address data encapsulating said message data and address data in an Ethernet packet and providing said Ethernet packet to said Ethernet interface and operating said data processor to cause said RF module to send an acknowledgement signal to said mobile unit.~~

66. (Previously Presented) A method as specified in Claim 65 wherein said data processor is operated to encapsulated said address data in said Ethernet packet.

67. (Previously Presented) A method as specified in Claim 65 wherein said data processor is further operated to perform a cyclic redundancy computation on said

message data and to compare the result thereof with corresponding data received in said data signals.

68. (Previously Presented) A method as specified in Claim 65, further comprising operating said data processor to control said radio module.

69. (Currently Amended) The system of claim 59 wherein the wireless data communications protocol is the IEEE 802.11 standard protocol.

~~A system for providing wireless data communications between mobile units and a wired network operating according to IEEE Standard 802.11 wireless data communications protocol having higher level media access control functions, including association and roaming functions, and lower level media access control functions, including packet acknowledgement functions, comprising:~~

~~a plurality of RF ports, having at least one data interface, a radio and a control unit, said RF ports being arranged to receive formatted data signals at said data interface and transmit corresponding RF data signals according to said wireless data communications protocol, and arranged to receive RF data signals having said wireless data communications protocol and provide corresponding formatted data signals at said data interface, said RF ports being further arranged to perform at least some of said lower level media access control functions, including said packet acknowledgement functions; and~~

~~at least one cell controller, arranged to receive data signals from said wired network, to format said data signals and to provide formatted data signals to said data interface of RF ports connected to said cell controller, and to receive formatted data signals from said connected RF ports and to provide data signals to said wired network;~~

~~said cell controller being further arranged to perform at least some of said higher level media access control functions for all of said connected RF ports, including association of mobile units with one of said RF ports.~~